

## ABSTRACT OF THE DISCLOSURE

A rotational torque detection mechanism is provided, which includes a rotational shaft whose first end portion reaches outside the mechanism, a magnetostrictive membrane which is disposed on a surface of the rotational shaft and varies its magnetic permeability according to an amount and direction of rotational torque acting on the rotational shaft, an excitation circuit which is disposed to confront the rotational shaft so as to excite the magnetostrictive membrane and a detection circuit which is disposed to confront the rotational shaft so as to electrically detect a change of the magnetic permeability of the magnetostrictive membrane. In the rotational detection mechanism, the first end portion is adapted to be a free end and a second end portion of the rotational shaft is rotatably supported.